

# **Integrated Public Alert and Warning System**

**Get Alerts, Stay Alive**

December 13, 2010



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# The Evolution of Emergency Broadcasting



**1951 - 1963**  
**CONELRAD**

**1963 - 1997**  
**EBS**

**1997 - 2006**  
**EAS**

**2006**  
**IPAWS**

Originally called the “Key Station System,” the **CONTROL** of **ELECTROMAGNETIC RADIATION** (CONELRAD) was established in August 1951.

Participating stations tuned to 640 & 1240 kHz AM and initiated a special sequence and procedure designed to warn citizens.

EBS was initiated to address the nation through audible alerts. It did not allow for targeted messaging.

System upgraded in 1976 to provide for better and more accurate handling of alert receptions.

Originally designed to provide the President with an expeditious method of communicating with the American Public, it was expanded for use during peacetime at state and local levels.

EAS jointly coordinated by the FCC, FEMA and NWS.

Designed for President to speak to American people within 10 minutes.

EAS messages composed of 4 parts:

- Digitally encoded header
- Attention Signal
- Audio Announcement
- Digitally encoded end-of-message marker

IPAWS modernizes and integrates the nation’s alert and warning infrastructure.

Integrates new and existing public alert and warning systems and technologies

Provides authorities a broader range of message options and multiple communications pathways

Increases capability to alert and warn communities of all hazards impacting public safety.



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# IPAWS Federal Guidance

## Executive Order 13407 states:

- “It is the policy of the United States to have an effective, reliable, integrated, flexible, and comprehensive system to alert and warn the American people...”
- “establish or adopt, as appropriate, common alerting and warning protocols, standards, terminology, and operating procedures for the public alert and warning system to enable interoperability and the secure delivery of coordinated messages to the American people through as many communication pathways as practicable...”
- “administer the Emergency Alert System (EAS) as a critical component...”
- “ensure that under all conditions the President of the United States can alert and warn the American people.”



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# IPAWS Federal Guidance

## **1995 Presidential EAS Statement of Requirements states:**

- “The national level EAS must be: Fully integrated from the national to local level, yet capable of independent local (Priority Two) and state (Priority Three) operations”

**The IPAWS Program Management Office was formed to implement Executive Order 13407**



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# The IPAWS Program Vision, Mission, and Goals

## *Vision*

Timely alert and warning to American citizens in the preservation of life and property.

## *Mission*

Provide integrated services and capabilities to Federal, State, territorial, tribal, and local authorities that enable them to alert and warn their respective communities via multiple communications methods.



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# The IPAWS Program Vision, Mission, and Goals

## Goals

To attain the Vision and accomplish the Mission, FEMA has established three overarching strategic goals:

Goal 1 – Create and maintain an integrated interoperable environment for alert and warning

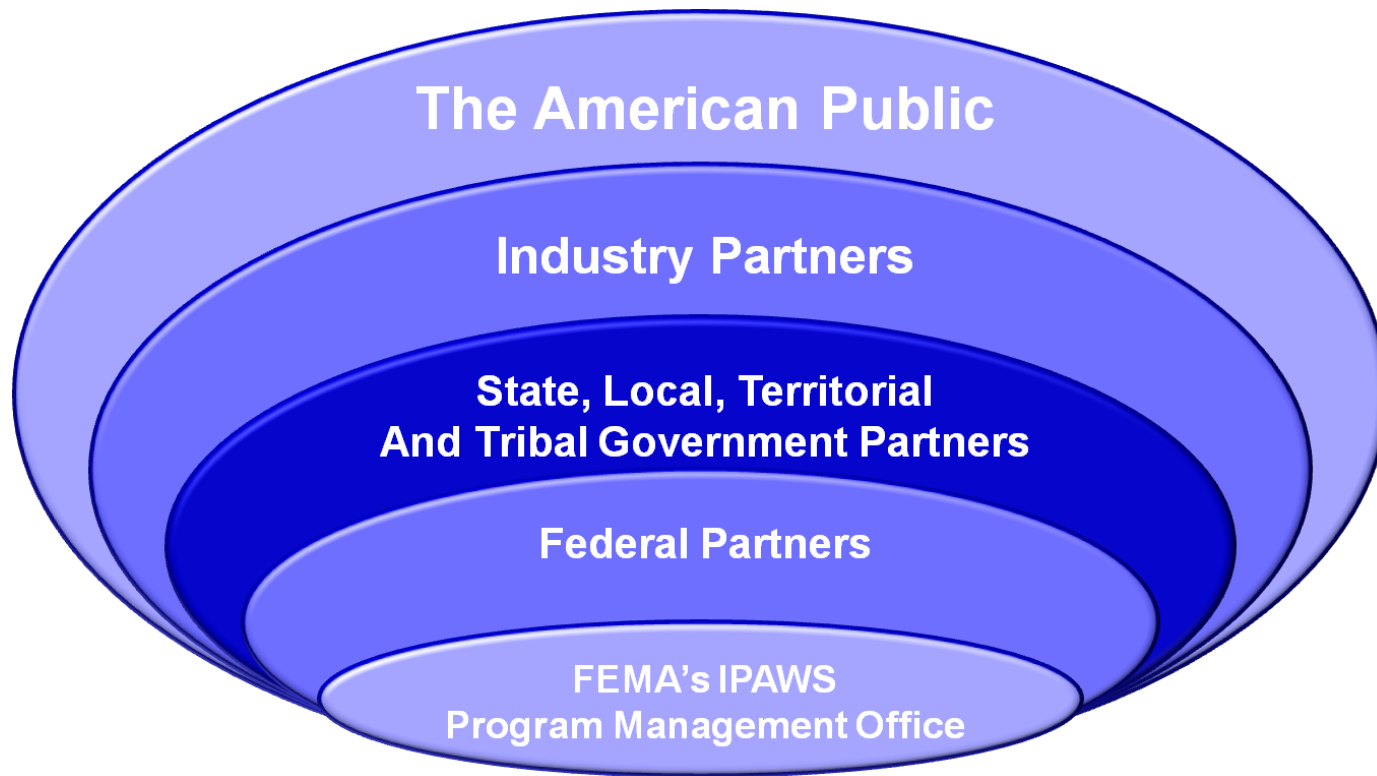
Goal 2 – Make Alert and Warning More Effective

Goal 3 – Strengthen the Resilience of IPAWS Infrastructure



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# IPAWS Stakeholders



- Successful private-public relationships are critical to IPAWS.
- IPAWS is fulfilling the requirements in EO 13407 by reaching out to all stakeholders.



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# IPAWS Vision

*Timely Alert And Warning To American Citizens In The Preservation of Life And Property*



**Television**



**Radio**



**Cell Phone**



**Computer**



**Home Phone**



**Public Signage**

**Alerting Authorities; Federal, State, territorial, tribal, and local**

**IPAWS Alert Aggregators**

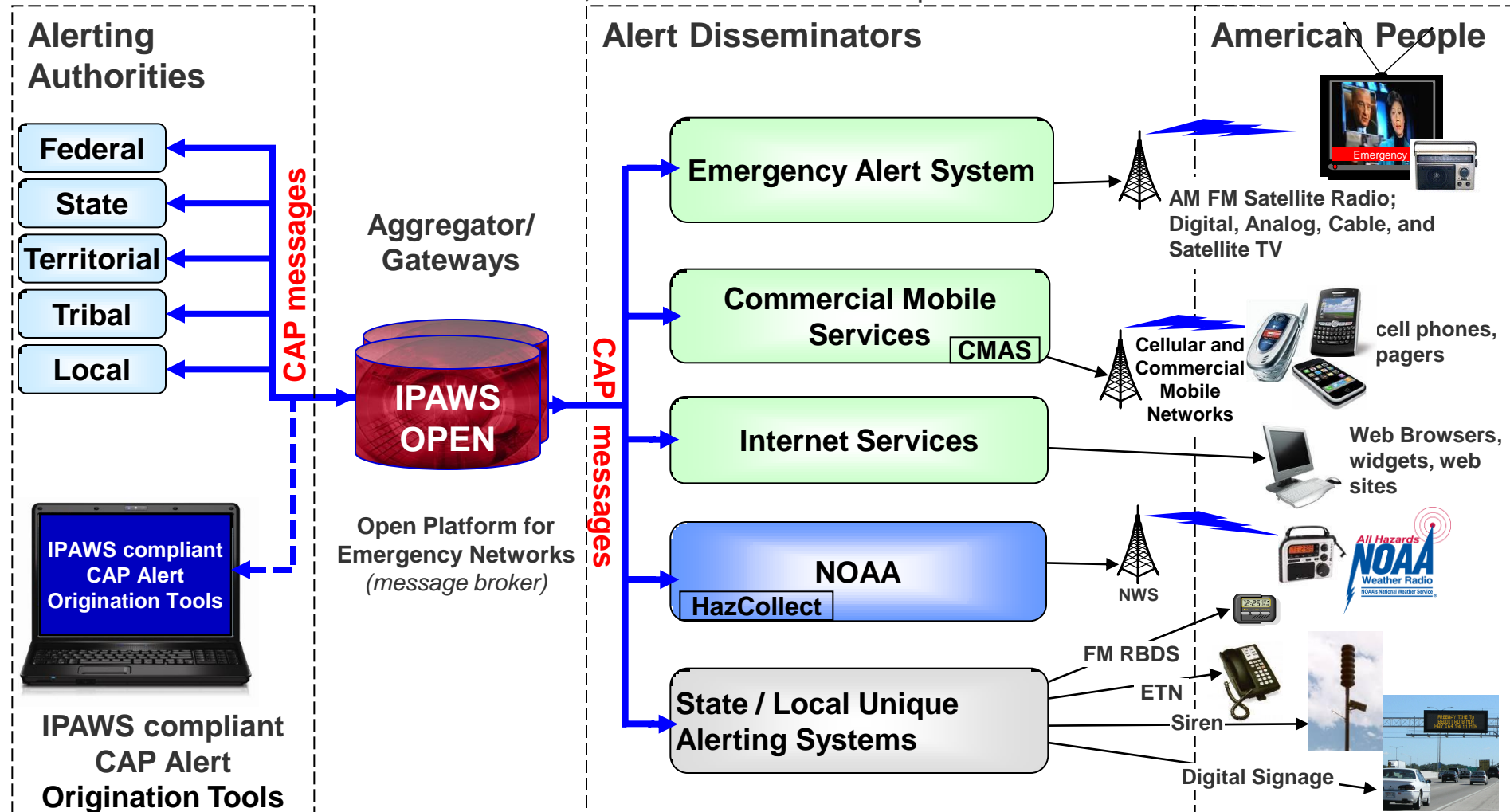


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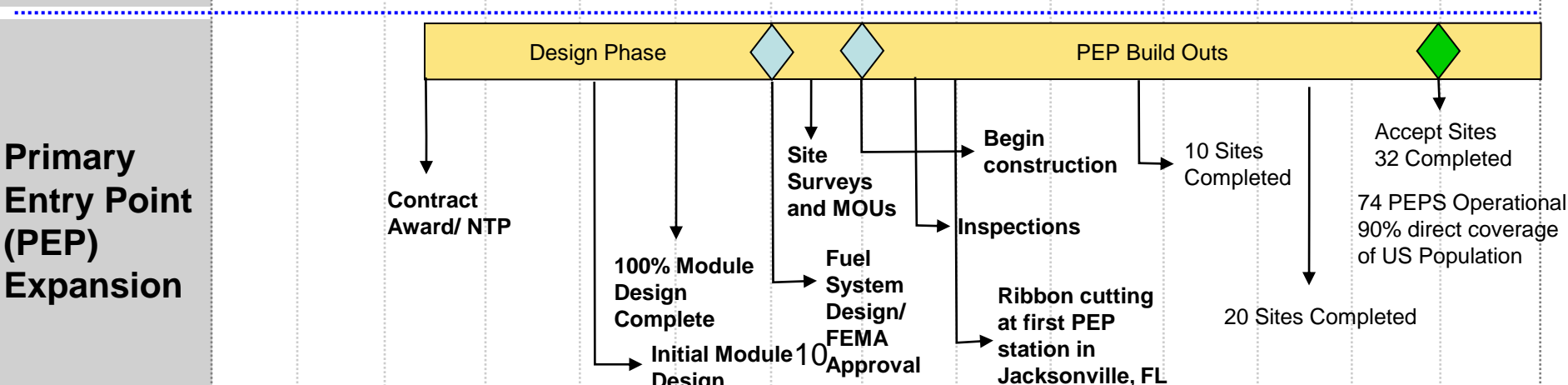
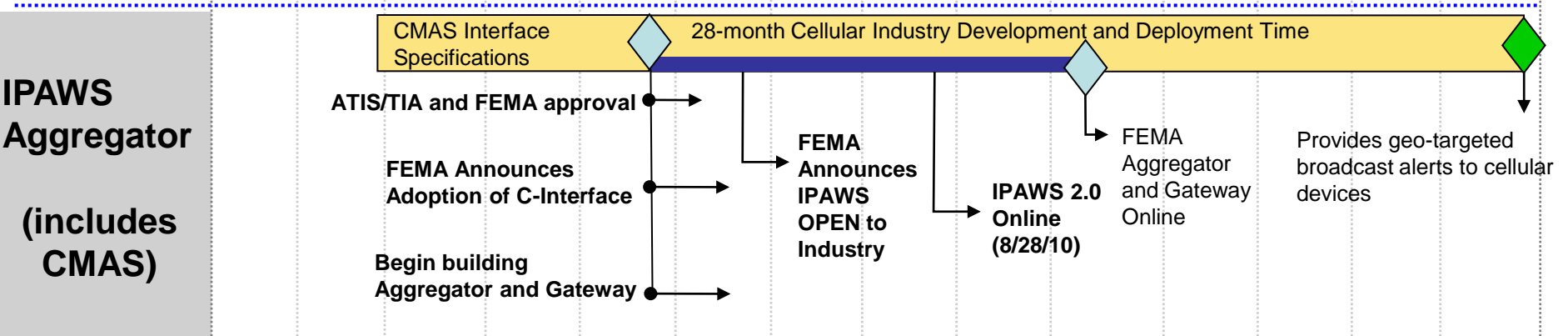
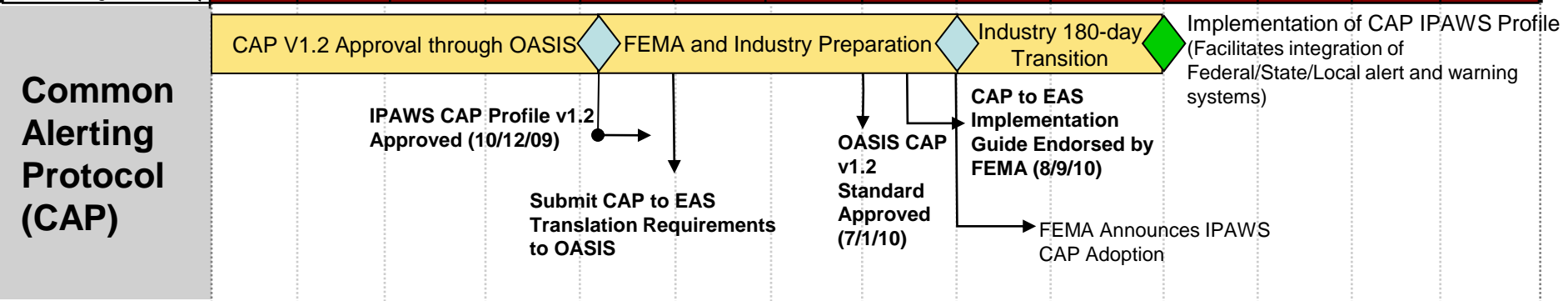
# IPAWS Architecture

Standards Based Alert Message protocols, authenticated alert message senders, shared, trusted access & distribution networks, alerts delivered to more public interface devices



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Fiscal Year \ Project	FY09				FY10				FY11				FY12	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2



# IPAWS Project Areas

- Emergency Alert System

- Modernization and expansion of EAS - implementation of next generation digital format for distribution of alerts; the Common Alerting Protocol (CAP); doubling of FEMA connected Primary Entry Point (PEP) stations to provide direct EAN broadcast coverage to 90% + of the United States population

- Commercial Mobile Alert System (CMAS)

- A System to enable alert authorities access to cellular networks for broadcast of alert messages in text format (capability is alert message broadcast to a location, not a subscription SMS based service)



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# IPAWS Project Areas

- IPAWS Alert Aggregator (OPEN)
  - A CAP message broker and dissemination gateway providing authenticated alert authorities at all levels (federal state territorial, tribal, local) access to public communications networks for dissemination of alert and warning information
- Integration of capabilities and access with NOAA capabilities
- Training Development and Outreach
- Study and Development of better alerting capabilities
  - Foster the developed Technologies for Americans with functional and special access needs and non-English speakers



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# IPAWS Project Areas

- IPAWS is enhancing and modernizing the National EAS system while developing additional capabilities that will be available for use by all levels of alert authority (digital alert distribution to broadcasters, cellular broadcast alerts, integration with NOAA networks)
- IPAWS does not replace local alerting systems. Through integration, IPAWS can provide additional capabilities to local alerting authorities.



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# IPAWS Milestones & Activities

## **Accomplishments:**

- IPAWS Technical Specification to Common Alerting Protocol v1.2 (Nov 09)
- Commercial Mobile Alerting System Interface Specification (Dec 09)
- Conducted live code exercise of national EAS (EAN) in Alaska (Jan 10)
- First Expansion Primary Entry Point station brought online (Aug 10)
- DM-OPEN v 2.0 brought online in FEMA data center (Aug 10)
  - DMIS / OPEN v1.0 online in DHS data center for transition period
- Accepted the ECIG CAP to EAS Implementation Guide (Aug 10)
  - Document available at: <http://www.eas-cap.org/documents.htm>
- Formally adopted Common Alerting Protocol (CAP v1.2) (Sep 10)



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# IPAWS Milestones & Activities

## Moving Forward:

- Conformance testing of vendor products to IPAWS CAP Profile
  - Lab web site/vendor application at:  
**<https://www.nimssc.org/ipawsconform/default.asp>**
- IPAWS CMAS Gateway available for carrier testing (Feb 2011)
- Inventory of State and Local EOC Alert and Warning Capabilities
- Nationwide exercise of the national Emergency Alert System (2011)



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# Comments and Questions

IPAWS Website - <http://www.fema.gov/emergency/ipaws>

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